

We are given the input plaintext of:

The phony war is over and it will soon be time to discover who's hot and who's not on the 2023 Formula 1 grid. Red Bull ended last season in dominant shape, winning all bar one of the grand prix in the second half of the 22-round championship. Because of that - and their 2021 budget cap breach - they have less time to spend on developing their RB19. Will that allow Ferrari and Mercedes to reduce their advantage?

And the output ciphertext of:

5b11ec306b005aa885c0fb9c7c286caf9e261538495944b9550d8698aeea61f552ad85c564210088bd3f25669c89da2fdd79ee8024f1eb8d1c0bffe948637191

So for this assignment we just made some minor changes the existing SHA256 algorithm that we were given by the professor. These changes include changing the K values and the round keys, and the changes that we need to make to the size parameters of the iterating loops. Additionally, we need to implement padding by 0 and 1 where it is need.